

**KOBUK RIVER HUMAN USE MONITORING IN
THE KOBUK PRESERVE UNIT**

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KOBUK RIVER CORRIDOR MONITORING REPORT FOR 1997

INTRODUCTION

The Kobuk River Preserve Area of Gates of the Arctic National Park and Preserve (GAAR) has always attracted a variety of consumptive use activities. An abundant sheefish population especially in the vicinity of the Pah River has attracted both subsistence and recreational fisherman. Local people have observed an increase in the number of recreational and sport users on the river. Subsistence users have expressed concern over hunting and fishing competition with these visitors, especially at traditional hunting and camping spots. In 1997 a Monitoring Plan was developed for the Kobuk River Valley by National Park Service staff to efficiently observe and document all types of use on and near the Kobuk River corridor. NPS management needs baseline use data to make future policy decisions regarding the Kobuk River Preserve.

The goal was to monitor human use along the Kobuk River and collect annual data regarding recreational, subsistence, and commercial use both in summer and winter. The following objectives were established to effectively achieve this goal:

- 1.) Compile locations and time frames critical to different user groups.
- 2.) Record dates and locations of any observed animal harvested within the preserve.
- 3.) Link all data to a spatial Lat/Long point for entry into GIS.

STUDY AREA

The study area is located along the Kobuk River in the Kobuk Preserve Unit of Gates of the Arctic National Park and Preserve (Fig. 1). Within the northern part of the preserve are three prominent lakes: Selby, Narvak, and Nutuvukti Lakes. Just north of the preserve is Minakakosa Lake which drains via Beaver Creek into the Kobuk River. Adjacent land upstream of the preserve is Gates of the Arctic National Park and downstream, is mostly Native corporation land. No villages are located within the study area, but there are several remote cabin/inholdings and residents of local villages, Kobuk, Shungnak, and Ambler have fishcamps within the preserve.

Boreal forest and shrub thicket are the main vegetation communities in the Kobuk Preserve. White and black spruce (*Picea mariana*), willow (*Salix* spp.), alder (*Alnus* spp.), paper birch (*Betula papyrifera*), aspen (*Populus tremuloides*), and balsam poplar (*Populus balsamifera*) are the dominant species of the area.

METHODS

Field Methods

These techniques were used to monitor activity:

- 1.) River patrols, including canoe floats and jet-powered Zodiac raft
- 2.) Regularly scheduled overflights of river valley corridor and adjacent lakes
- 3.) Visiting fishcamps and asking locals about harvests
- 4.) Contacting local air taxi services bi-monthly to obtain information on how many groups they flew into the study area.

On each trip or flight the following information will be collected:

1. GPS location or map point for each activity observed
2. Aircraft or hunters observed on lakes and drainages

3. Animal species and number harvested within the park and preserve
4. Type and location of aircraft observed flying below 1000 ft
5. Number of sport or subsistence hunters contacted and where they were seen

Data Gathering Procedures

Subsistence activity forms are filled out for each patrol or flight. (see attached form)

A map with GPS locations or with labeled points will accompany each patrol or overflight to link data to a geographic location. Maps will be marked and included as part of each overflight report from the pilot/observer team.

A Bettles staff member will contact air taxi services every two weeks and request information on numbers of recreational users they have flown to the Kobuk area.

RESULTS

Staff Observational Trips

Staff members participated in six trips on the Kobuk River between June 24 and September 22. The first three trips between June 24 and August 25 were done by canoe. The other three trips during the main hunting season were done using a Zodiac raft powered by a 30 HP jet outboard motor. Due to difficulties with the motor on the Zodiac raft, the observer of the last trip (9/17-9/22) did the majority of his observations in conjunction with the ADF&G sheefish project crew which used a jet powered riverboat.

In addition to the river patrols, the NPS ranger /pilot made eight overflights from Bettles to the Kobuk Preserve area between June 28 and September 20. Total flight time for these overflights was 23.6 hours. The results of these flights are summarized in Table 2.

Bi-monthly reporting information by local air taxis was not obtained. Some contact was made but other staff responsibilities and limited cooperation from charter companies resulted in ???data.

Subsistence Activity

Fourteen groups or boatloads of subsistence users totaling 40 individuals were observed between August 21 and September 21 on the Kobuk River within the study area (Table 1). Not all parties were contacted. In most cases they were observed driving riverboats past the observers' camps with no personal contact possible. This made it impossible to determine if they had harvested any animal species. Outboard-powered riverboats were used by all subsistence people observed. Since they often did not talk with them, observers were unable to determine which village most subsistence groups were from.

Recreational/Sport Activity

Observers saw or contacted seventeen groups of recreational users totaling 44 individual hunters or fishermen between the same dates (8/21-9/21) floating on the Kobuk River within the area studied (Table 1). A majority of these groups were contacted by the observers. Names, addresses, and harvest information were often obtained. In all but two instances, these groups were using a raft for transportation on the river. Of the two exceptions, one group used a motorized freight canoe and the other, a permitted fishing guide, used an outboard-powered riverboat.

Activity, both sport or subsistence, was documented on eighteen individual days during the study. Overlap of use by recreational and subsistence hunters was observed on only 4 of the 18 days or less than 1/4 of the time. Recreational hunters were observed on 11 separate days while subsistence hunters were observed 10 days.

Harvest Information

Observers recorded the harvest of 2 moose by subsistence users and 5 by recreational hunters. Three caribou were recorded taken by subsistence hunters and ten by recreational floaters. In addition the harvest of one black bear and one wolf by recreational hunters was recorded. This record represents only a portion

of the animal harvested during this study period. Because observers did not contact and interview all hunters, especially subsistence groups, the total harvest is unknown.

Data Compilation

Subsistence Activity Observation Forms were completed by most observers for applicable observations. Where necessary, the Subsistence Resource Specialist used the observer's written descriptions of where subsistence activity occurred to get latitude and longitude. The Arcview 3 GIS software was used to plot points and determine Lat/Long. Information will be preserved in a Subsistence Activity database.

DISCUSSION

Better coverage of the Kobuk Preserve Area was achieved by staff observers in 1997 compared to the 1996 effort. The largest gap in 1997 was a four day period between 8/25 and 8/30 when there were no observers recording data and again between 9/7 and 9/11, a three day period when no staff member was on the Kobuk River. (Appendix 1) This is an improvement over the coverage in 1996 when there was a 12 day period in early August when no staff members were observing activity. In addition, in 1996 there was no one on the river after September 17. In 1997, the highest number of recreational hunters was recorded on September 18. The increased coverage in 1997 provided more data. However, differences in individual observer's techniques in data collection resulted in somewhat inconsistent data. One observer used a basecamp located above the river to observe and record activity. He motored to visit recreational groups camped nearby. Another observer traveled downstream to the Mauneluk River, back up to the mouth of Beaver Creek, and then back downstream to the pickup at "Kobuk International" a safe float plane landing spot about six miles inside the lower boundary of the preserve. Another observer was based at the sheefish camp. A check station or consistent monitoring technique would give more consistent data. Very few Subsistence Activity Forms included a geographic reference point, either by GPS or dots on a map. Therefore, the Subsistence Resource Specialist had to interpret the report narratives to attempt to plot points on a map using the Arcview 3 software. The result was that it was impossible to achieve much precision in where particular hunting or fishing activities were observed.

The data in 1997 did give a relatively thorough view of how many individuals were hunting in the Kobuk Preserve Area during the main hunting pressure of late August through September. An additional staff member recording observations during the two short time gaps would have greatly improved the significance of the data. Overflights each weekend, specifically on Saturday afternoon, would coincide with the peak subsistence activity which has become more weekend-focused as villagers, like most urban dwellers, accept 40 hour work weeks. In 1997 the flight reports did not include any geographic reference points for observed activities. In the future, GPS coordinates or simple dots on maps will allow these observed activities to be recorded into a database compatible with the GIS software.

The data from human use activities that were observed does not indicate heavy overlap in use times by subsistence and recreational hunters. Observations of subsistence and recreational hunters was recorded on 4 of 18 days, or a little less than 1/4 of the observations. On three of those dates, 8/21/97, 9/11/97, and 9/14/97 use was about the same for both groups. On 9/1/97 there were 4 times as many subsistence users recorded as recreational users. As stated earlier, a standardized technique for observing and contacting groups would result in better data.

Harvest information for sport hunters has been and continues to be more accurate than subsistence harvest data. Observers' reports consistently contain more specific species and numbers harvested by sport hunters. The harvest by subsistence users is usually unknown and in most cases, no personal contact has been made.

MANAGEMENT IMPLICATIONS

More complete data was compiled in the 1997 monitoring effort than in previous projects on the Kobuk River. Managers now need to determine how they want to proceed in monitoring efforts in the Kobuk Preserve Unit. A hunters check station run by one or two staff members during the peak hunting time of late August through September 20 is one possibility for standardizing the monitoring program. Another option is to continue Zodiac raft trips, with a predetermined protocol for contacting hunting groups. A third option is to reduce monitoring efforts to occasional staff trips during the peak hunting period of September. Whatever direction managers choose, it is important that observers strive to link all observations with a geographic coordinate and complete a Subsistence Activity Observation form so that this valuable information can be preserved in a GIS compatible database.

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Chart 1. Subsistence and Recreational Users Observed in Kobuk Preserve Unit Area During 1997 Hunting Season

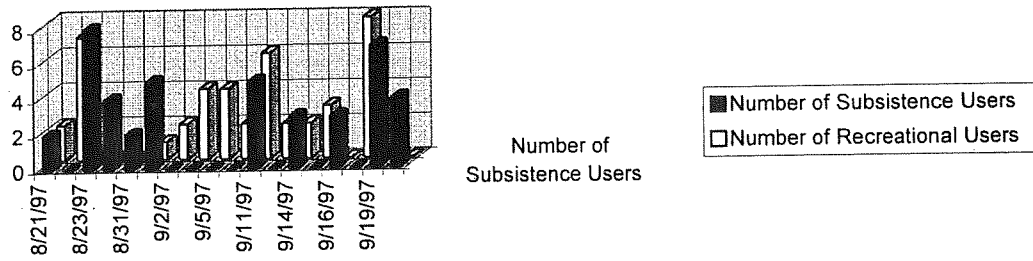


Table 1. Subsistence and Recreational Use Observations in the Kobuk Preserve Area During August and September of 1997.

| Date | Number and Type of Individuals Observed | Number of Parties (Boats or Rafts) | Number/Species of Harvest Observed |
|--------------------|--|---|---|
| 8/21/97 through | 10 Subsistence | 3 Boats | 1 Moose Sheefish |
| 8/23/97 | 9 Recreational | 4 Rafts/canoes | Sheefish |
| 8/30/97 through | 11 Subsistence | 5 Boats | 1 Moose, 3 Caribou Sheefish |
| 9/6/97 | 13 Recreational | 5 Rafts | 4 Caribou |
| 9/11/97 through | 8 Subsistence | 3 Boats | None Observed |
| 9/16/97 | 14 Recreational | 6 Rafts | 2 Moose, 6 Caribou 1 Wolf, 1 Black Bear |
| 9/18/97 through | 11 Subsistence | 3 Boats | Sheefish |
| 9/21/97 | 8 Recreational | 2 Rafts | 3 Moose |

**Table 2. Aerial Observations of Subsistence and Sport Activities in the
Kobuk Preserve Area In the Summer/Fall of 1997**

| Dates | Types and # of Users observed | Latitude and Longitude of Activity | Observer |
|--------------|--|---|-----------------|
| 8/9/97 | Float Plane | Minakakosa Lake 66.91138 -155.01610 | C. Johnson |
| 8/25/97 | C-185 Float Plane | Minakakosa Lake | C. Johnson |
| | 1 Pax in Canoe | 66.91030 -155.00946 | |
| 8/25/97 | 2 Subsistence | Kobuk River | C. Johnson |
| | Riverboats on Kobuk | 66.77572 -155.2004 | |
| 9/5/97 | 2 Subsistence | Kobuk River | C. Johnson |
| | Riverboats on Kobuk | Insufficient Information | |
| 9/5/97 | 2 Recreational Rafts | Kobuk River/Beaver Creek 66.80122 -155.07385 | C. Johnson |
| 9/6/97 | 2 Recreational Groups | Minakakosa Lake 66.91625 -155.01535 | C. Johnson |
| 9/6/97 | 1 Recreational tent | Nutuvukti Lake, NW side 66.99792 -154.7574 | C. Johnson |
| 9/6/97 | 1 Grumman Widgeon Aircraft | Walker Lake, North end 67.20936 -154.55453 | C. Johnson |
| 9/7/97 | 1 Recreational Raft | Kobuk River | C. Johnson |
| | | Insufficient Information | |
| 9/20/97 | 2 Subsistence | Kobuk River/Pah R. Mouth | C. Johnson |
| | Riverboats on Kobuk | 66.76953 -156.0254 | |

[illegible]

Appendix II. A List of Trip Date and Personnel Involved in the 1997 Kobuk River Patrols.

June 24-July 2 Peter Christian—Walker Lake to Kobuk International, Canoe

July 15-22 Bob Maurer—Minakakosa Lake to Pah River, Canoe

August 18-25 Dave Schmitz, Lance Astles—Minnakakosa Lake to Kobuk Village, Canoe

August 31-September 7 Jan Dick, Russ Wilson—Kobuk International, Jet-powered Zodiac raft

September 10-17 Mike Haubert—Kobuk International, Jet-powered Zodiac raft

September 17-22 Peter Christian—Kobuk International/Sheefish Camp, Zodiac raft

SUBSISTENCE ACTIVITY OBSERVATION FORM.

Date _____ Observer _____

Type of Observation _____

Aerial _____ Onsite visit _____

Visual--no contact _____ Anecdotal information _____

Drainage _____ LAT _____ °N LON _____ °W

Location _____

WEATHER _____

Rain _____ Snow _____ Clear _____

TEMPERATURE _____

Below 0° _____ 0° to 32° _____ Above 32° _____

WATER DEPTH _____

High _____ Normal _____ Low _____

SNOW DEPTH _____

No snow _____ <2' snow _____ >2' snow _____

Number in Party _____

VILLAGE _____

Alatna _____ Kobuk _____ Bettles/Evansville _____

Allakaket _____ Shungnak _____ Wiseman _____

Anaktuvuk _____ Ambler _____ Eagle Village/Eagle _____

Hughes _____ Circle City _____ Circle Hot Springs _____

Nuiqsut _____ Central _____

Unknown GAAR _____ Unknown YUCH _____ SPECIAL PERMIT _____

TARGETTED RESOURCE _____

Moose _____ Marten _____ Sheefish _____

Caribou _____ Wolf _____ Salmon _____

Sheep _____ River Otter _____ Char _____

Black Bear _____ Lake Trout _____

Brown Bear _____ Birch bark _____ Whitefish _____

Wolverine _____ Firewood _____

Lynx _____ Berries _____ Other(EXPLAIN) _____

SUBSISTENCE ACTIVITY OR EVIDENCE OF ACTIVITY _____

Hunting _____ Tent camp _____ Fishing (line) _____

Kill site _____ Cabin Use _____ Fishing (net) _____

Trapping _____ House Log cutting _____ Ice Fishing _____

Visible trap sets _____ Firewood Raft _____ Dog Team _____

Snowmachine trail _____ Woodcutting Area _____

Fresh birch bark _____ Berry/Plant _____

scars _____ Collection _____ Fuel/gear Cache _____

ACCESS MODE FOR SUBSISTENCE USERS _____

Boat _____ Snowmachine _____ Other (explain) _____

Argo _____ Foot _____ Dog Team _____

COMMENTS _____

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Date _____ Observer _____

Type of Observation _____

Aerial _____ Onsite visit _____

Visual--no contact _____ Anecdotal information _____

Drainage _____ LAT _____ °N LON _____ °W

Location _____

WEATHER _____

Rain _____ Snow _____ Clear _____

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Below 0° _____ 0° to 32° _____ Above 32° _____

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High _____ Normal _____ Low _____

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No snow _____ <2' snow _____ >2' snow _____

Number in Party _____

VILLAGE _____

Alatna _____ Kobuk _____ Bettles/Evansville _____

Allakaket _____ Shungnak _____ Wiseman _____

Anaktuvuk _____ Ambler _____ Eagle Village/Eagle _____

Hughes _____ Circle City _____ Circle Hot Springs _____

Nuiqsut _____ Central _____

Unknown GAAR _____ Unknown YUCH _____ SPECIAL PERMIT _____

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Moose _____ Marten _____ Sheefish _____

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